CONCERT WP6
Access to Infrastructures

Laure Sabatier
CEA
Access to Infrastructures

- CONCERT
- OPERRA
- DoReMi

- low dose
- collaboration non-radiobiology
- integrative access
Objectives

• Preparation of quality criteria for radiation protection research infrastructure and compilation of lists for recommended infrastructures

• Increase the visibility of infrastructures including the preparation of regular information about infrastructures (newsletter)

• Development of harmonized practices and protocols to strengthen and expand databases from past radiological experiments and from stored biological material

• Development of strategies for facilitating access to infrastructures

An ongoing process: The means to achieve these objectives will evolve over time to meet the changing needs and priorities of the EJP-CONCERT program
Task 6.1 – Promote the visibility of selected research infrastructures

Brit Salbu

NMBU
Task 6.1 – Promote the visibility of selected research infrastructures

- Subtask 6.1.1 – Listing the infrastructures (Lead: IRSN)
  
  *Global list*

- Subtask 6.1.2 – Develop and update quality criteria and lists of recommended infrastructures (Lead: CIEMAT)
  
  *Criteria and list of recommended infrastructures*

- Subtask 6.1.3 – Increase the visibility of recommended infrastructures (Lead: CEA)
  
  *Web portal/newsletter*
Promote the visibility of selected research infrastructures

Listing the infrastructures and Develop and update quality criteria and lists of recommended infrastructures

Almudena Réal
CIEMAT
Listing the infrastructures and Develop and update quality criteria and lists of recommended infrastructures

- Almudena to provide presentation
Promote the visibility of selected research infrastructures

Increase the visibility of recommended infrastructures

William Hempel
CEA
Increase the visibility of recommended infrastructures

Two strategies envisioned

• Creation of a single portal to access databases of archived data from around the world

• Publication of a periodic newsletter featuring selected infrastructures
Single portal to access databases of archived data and samples

Concept – a single entry site to easily access any database or biobank in the world for archived radiobiological data and samples (ex. Fukushima, Chernobyl tissue bank, STORE, JANUS, FREDERICA, etc.)

- Identify all appropriate databases
- Host portal at website that will outlast CONCERT (CEA)
- Link to CONCERT website
- Make it searchable – create a search engine that allows searches based on specific concepts or terms (feasibility)
- Financing?
- Informatics expertise?
Periodic Newsletter

• To start at M12

• Content: Presentation of infrastructure facilities or types of infrastructures based on the output of task 6.1.2 and written by experts

• Contributors
  – CONCERT only?
  – Outside experts?

• Format for each issue
  – One specific infrastructure?
  – Several of the same type?
  – One example of each type (irradiation platforms, biobanks and databases, analytical and ‘omics platforms)?

• Frequency
  – Monthly? (requires planning but feasible if contributors respect deadlines)
  – Bi-monthly?
  – Quarterly? (may be a long delay before certain infrastructures are presented)
Task 6.2 – Harmonize practices and protocols

Fieke Deffers

RIVM
Harmonize practices and protocols

- Strengthen and expand databases from
  - Radiobiology experiments
    - Animals
    - Plants
    - Radioecology field studies
  - Cohort studies – indicate to what extent biological material is available

- Develop guidelines for carrying out harmonization exercises for selected infrastructures

- Develop a standardized sample set for testing ‘omics platforms
Task 6.2 - Harmonize practices and protocols

- **Subtask 6.2.1** – Maintaining STORE (*Lead: Bfs*)
  
  *Curation and updates*

- **Subtask 6.2.2** – Incrementing databases (*Lead: MTA-EK*)
  
  *Identify archived data*

- **Subtask 6.2.3** – Retrospective studies (*Lead: SCK-CEN*)
  
  *Approaches used to study archived biobanked material*

- **Subtask 6.2.4** – Harmonization and exercises (*Lead: CEA*)
  
  *Prepare guidelines, develop standardized sample set and support evolution of RENEB*
Harmonize practices and protocols

Maintaining STORE

Bernd Grosche
Bfs
Maintaining STORE

- Bernd to provide presentation
Harmonize practices and protocols

Incrementing Databases

Balazs Madas
MTA-EK
Incrementing databases

First priority is to identify potential archived and recent data and samples from radiobiology experiments to include in STORE

- In DoReMi, ad hoc funding was provided to inventory biobanked material and upload the data into STORE for collections at the CEA, SCK-CEN, and HMGU.
- In CONCERT, all CONCERT partners will be sent a questionnaire to assess whether they have collections that could be amenable to inclusion in STORE.
- The data will be compiled to determine the number of institutes, the amount of data, and the number of samples.
- Based on the results, various scenarios will be considered to support the inclusion of the data and samples into STORE.

A second priority will be to encourage/require that all data from CONCERT projects is uploaded to STORE or another appropriate database.
Incrementing databases

A second priority will be to encourage/require that all data from CONCERT projects is uploaded to STORE or another appropriate database.

- All publications arising from H2020 funded projects must be open access.
- H2020 promotes open access to research data through their Pilot Action on Open Research Data which is required for specific themes.
- Possible to “volunteer” to provide open access through the Pilot program by including Article 29.3 in the grant agreement.
- What will be the policy of CONCERT?
  - Ask that applicants for the calls volunteer to make their data open access?
  - Make open access to research data a requirement to obtain funding (with an opt-out option if justified as spelled out in Article 29.3)?
Harmonize practices and protocols

Retrospective studies

Ulrike Kulka
Bfs
Retrospective studies

- Ulrike to provide presentation
Harmonize practices and protocols

Harmonisation exercises

Jean-Michel Dolo
CEA
Harmonize practices and protocols on infrastructures

Only when they have a possible direct impact on the quality of the results of research projects

Two types:
- Irradiation facilities
- Analytical platforms

Increase confidence for research project management

Labelling system by CONCERT?
Harmonization practices
Some ideas for discussion for facilitating access to the network of « CONCERT Infrastructures »

Define a common roadmap/rules for an infrastructure for its « integration » and to monitor the harmonization process

Several approaches are possible
Both approaches could be used and accepted by CONCERT
A third mixed approach could also be introduced

Approach 1
First « validated » integration in the « network »
Initial contact
Round of monitoring

Approach 2
Equivalent system of external and independant recognition, if possible, at national (ex : DAkkS, UKAS ) or european level (EA)
Harmonization process
Some ideas for discussion

Establish a global roadmap for the harmonization process
✓ Creation of a pilot group to accompany each candidate on the path of the roadmap
✓ Production of different tools (guidelines...)
✓ Sensibilisation and visits/training of candidates
✓ ....

How to develop the harmonization process?
✓ Identify best previous practices depending on activities based on validated criteria
✓ Promote information sharing between infrastructures using feedback approach
✓ Develop an operational virtual common support for the monitoring of intercomparison exercises
✓ ....
Possible tools

Practices/protocols

Guidelines for entrance/exit in the network of “CONCERT recommended infrastructures “
Guidelines for traceability - SI units or recommended (AU) by experts
Guidelines for the establishment of an internal reference and audit
Guidelines for data registration, validation and communication (from infrastructure to project)
....

Intercomparison exercises

Develop a virtual neutral common laboratory to organize/pilot and exploit results of compatibility check and comparisons
Establish common standard samples set (see next slides as examples)
Establish various adapted protocols for intercomparisons (bilateral, blind...)
Establish common methodology for uncertainties and compatibility criteria
....
Establishing a process for the production of sets of standards (biodosimetry) for irradiation platforms

Repository of standard sample sets prepared by an external expert laboratory (biodosimetry...)

Standard sample set to be sent to other facilities used for CONCERT funded projects for comparison to assure their technical quality

Facility used for CONCERT funded project

Results Compatibility test

Establish common reference

Virtual independant pilot lab to monitor data & standard samples

Analyzed by several well recognized laboratories
Establishing a process for the production of sets of standards for ‘omics platforms

Repository of a large number of limited sample sets prepared by an external expert laboratory (proteomics, genomics, etc.)

Facility used for CONCERT funded project

Virtual independant pilot lab to monitor data & standard samples

Results Compatibility test

Establish common reference

Results

Analyzed by several well recognized national laboratories

Standard sample set to be sent to other facilities used for CONCERT funded projects for comparison to assure their technical quality
Intercomparison exercises
A strategy of consistency?

Voluntary action, Obligation …. or strongly recommended (Bonus by Concert?)

Use the acquired experiences of EURADOS or RENEB

Define acceptable limits of consistency in order to improve the potential of re-use data issued from different projects

Create an open database of those activities (results) to members and potential partners to build confidence in the network of infrastructures
Task 6.3 – Strategy for facilitating Access to Infrastructures

Laure Sabatier

CEA
Task 6.3 - Strategy for facilitating Access to Infrastructures

- Subtask 6.3.1 – Identification of the needs to support sustainability of critical (including rare) facilities *(Lead: HMGU)*
  
  *promote the use and support of critical facilities based on research priorities*

- Subtask 6.3.2 – Developing training *(Lead: UPV)*
  
  *provide training around the use of certain types of infrastructures*

- Subtask 6.3.3 – Existing procedures (calls, funding...) *(Lead: CEA)*
  
  *explore already available funding opportunities for infrastructure access*

- Subtask 6.3.2 – Funding scheme (within infrastructure/within project) *(Lead: CEA)*
  
  *propose funding modalities for the upcoming CONCERT calls*
Strategy for facilitating access to infrastructures

Existing funding mechanisms and proposed funding schemes for the CONCERT calls to support access to infrastructures

Laure Sabatier
CEA
Existing funding mechanisms

• There are several examples of existing funding mechanisms to allow researchers access to state-of-the-art infrastructure
  – Genomics: The European Sequencing and Genotyping Infrastructure (ESGI) – Periodic calls (50K€ minimum) to use the facilities at the 6 laboratories providing transnational access. Finishing this year
  – Proteomics: PrimeXS – a very similar approach to ESGI at their 6 transnational access facilities. Finishing this year
  – BBMRI-LPC: Annual calls to access the large population collections of the network. It is considered a pilot project and if successful could be a model for the future.

• In the future – other ESFRI platforms?

• We will continue to search for already existing and upcoming opportunities to fund access to infrastructure
Potential funding mechanisms

• Promotion of the use of archived materials
  – Proposals to indicate yes/no whether the same experiment could be performed using archived material
  – Specific call for the use of archived materials using specific approaches identified in Task 6.2.3

• Promotion for the biobanking of samples and archiving of data
  – Require that data for all appropriate projects will be uploaded to STORE or another appropriate database to receive funding
  – Require that all published data is open access
  – Where appropriate, require that applicants specify how they will conserve and store unused materials that can be used for future experiments and the associated cost
Potential funding mechanisms

• Targeted funding of selected infrastructures
  – Based on the specific topics of the call, a list of appropriate infrastructures will be provided including the cost of their use
  – The applicant will be asked to select an infrastructure from the list to be a partner in the project describing the scale of the need (number of hours of beam time, base pairs of sequencing, etc.)
  – CONCERT will then directly pay the selected infrastructure for the necessary access.

• For those applications that do not wish to use one of the specified facilities
  – ‘Omic: require that the applicant test the standard sample set at the facility used in the project for comparison with the reference facilities
  – Other facilities: provide a well reasoned explanation for using an alternative facility
Potential funding mechanisms

Input from WP6 to CONCERT calls

• All proposals
  – Indicate yes/no whether the same experiment could be performed using archived material
  – Require that data is uploaded to STORE or other database
  – Require all published data is open access
  – Require that applicants specify how they will conserve and store unused materials for future experiments
  – ???

• Topical
  – Specific call for the use of archived materials using specific approaches identified in task 6.2.3
  – Targetted funding of selected infrastructures as a function of the call topic
  – ???
Strategy for facilitating access to infrastructures

Identification of the needs to support sustainability of critical (including rare) facilities

William Hempel
CEA
Critical facility = Facilities selected based on the priority research objectives spelled out in the SRAs and roadmaps of WP2 and WP3 and the criteria developed in Subtask 6.1.2 that are in danger of being closed.

Strategies to promote the sustainability of these facilities will include:

- Their use in the CONCERT projects.
- Lobbying of Euratom by CONCERT and the radiobiology platforms (MELODI, Alliance, etc.) to provide funding to keep these facilities open.
Strategy for facilitating access to infrastructures

Developing Training

Vere Smyth

UPV
Developing Training

- Vere to provide presentation